399-2-8 (C6185)
Log Data Report

Borehole Information:

Borehole:	399-2-8 (C6185)		Site:	300-FF-5	
Coordinates (WA St Plane)		GWL[1] (ft):	27.7	GWL Date:	07/09/08
North (m)	East (m)	Drill Date	TOC[2] Elevation	Total Depth (ft)	Type
116090.2	594243.4	07/09/08	Unknown	60	Sonic

Casing Information:

Casing Type	Stickup (ft)	Outer Diameter (in.)	Inside Diameter (in.)	Thickness (in.)	Top (ft)	Bottom (ft)
Welded Steel	3.7	7 5/8	6 7/8	3/8	3.7	57.0

Borehole Notes:

Casing data, and total depth were reported by the site geologist. Logging engineer measured depth to water with an e-tape. Casing diameters were measured using a steel tape and rounded to the nearest 1/16-in. The zero reference is the ground surface.

Logging Equipment Information:

Logging System:	Gamma 4 L		Type:	60% HPGe SGLS
			Serial No.:	47TP32211A
Effective Calibration Date:	12/31/07	Calibration Reference:	HGLP-CC-027	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Logging System:	Gamma 4 H		Type:	NMLS
			Serial No.:	H310700352
Effective Calibration Date:	11/06/07	Calibration Reference:	HGLP-CC-021	
		Logging Procedure:	HGLP-MAN-002, Rev. 0	

Spectral Gamma Logging System (SGLS) Log Run Information:

Log Run	1	2 Repeat
Date	07/08/08	07/08/08
Logging Engineer	McClellan	McClellan
Start Depth (ft)	57.0	42.0
Finish Depth (ft)	0.0	36.0
Count Time (sec)	200	200
Live/Real	R	R
Shield (Y/N)	N	N
MSA Interval (ft)	0.5	0.5
Log Speed (ft/min)	N/A	N/A
Pre-Verification	DL581CAB	DL581CAB
Start File	DL581000	DL581115
Finish File	DL581114	DL581127
Post-Verification	DL581CAA	DL581CAA

Log Run	1	2 Repeat
Depth Return Error (in.)	0	0
Comments	No fine gain adjustment made.	No fine gain adjustment made.

Neutron Moisture Logging System (NMLS) Log Run Information:

Log Run	3	4 Repeat
Date	07/09/08	07/09/08
Logging Engineer	Pearson	Pearson
Start Depth (ft)	0.0	27.75
Finish Depth (ft)	27.75	24.0
Count Time (sec)	15	15
Live/Real	R	R
Shield (Y/N)	N	N
MSA Interval (ft)	0.25	0.25
Log Speed (ft/min)	N/A	N/A
Pre-Verification	DHG52CAB	DHG52CAB
Start File	DHG52000	DHG52112
Finish File	DHG52111	DHG52127
Post-Verification	DHG52CAA	DHG52CAA
Depth Return Error (in.)	N/A	0
Comments	None	None

Logging Operation Notes:

Data were collected using Gamma 4, HO 68B-3573. SGLS pre- and post-survey verification measurements were acquired in the Amersham KUTh-115 field verifier. Maximum logging depth achieved was 57.6 ft before the sonde un-weighted. A centralizer was installed on the sonde. NMLS pre- and post-survey verification measurements were acquired in the standard field verifier.

Analysis Notes:

Analyst:	Henwood	Date:	08/27/08	Reference:	GJO-HGLP 1.6.3, Rev. 0

SGLS pre- and post-survey verification spectra met the acceptance criteria for the established system. NMLS pre- and post-survey verification spectra met the acceptance criteria for the established system.

A casing correction for a 3/8-in. thick casing was applied from ground surface to 57 ft. A water correction was also applied during analysis from 27.7 ft to total logged depth of borehole.

SGLS spectra were processed in batch mode using APTEC SUPERVISOR to identify individual peaks and count rates. Concentrations were calculated using an EXCEL template identified as G4LDec07.xls using an efficiency function and corrections for casing, dead time and water as determined by annual calibrations. NMLS spectra were processed in batch mode in APTEC SUPERVISOR to identify counts. Count rates were calculated using an EXCEL template identified as G4HNov07.xls. There is no direct calibration data available for a 6 7/8-in. inner diameter borehole casing. Therefore, moisture data are reported in counts per second (cps).

Results and Interpretations:

U-238 (Pa-234m) was detected at 19 and 19.5 ft at a maximum concentration of 10 pCi/g. Gamma energy spectra at these points show definite photopeaks for the 1001.03 keV gamma ray associated with Pa-234m. A corroborating

photopeak for Pa-234m at 766.36 keV is not indicated. However, the detection of the 1001 keV gamma ray of Pa-234m is near its MDL and the gamma ray yield from the 766 keV peak is approximately one-third of the 1001 gamma ray. Therefore, it is expected that the 766 keV gamma ray would not be detected at low concentrations of Pa-234m. Spectra from other detections of Cs-137 and U-238 were individually inspected and it was determined the detections were statistical fluctuations associated with the processing software.

A relatively high concentration of Th-232 is indicated at approximately 39 ft. The significance of this "anomaly" is unknown until compared with other boreholes in the vicinity to determine the spatial continuity. The KUT repeat plots indicate good repeatability.

The moisture repeat plot indicates good repeatability.

List of Log Plots:

Depth Reference is ground surface

Manmade Radionuclides
Natural Gamma Logs
Combination Plot
Total Gamma & Moisture
Repeat Section of Natural Gamma Logs
Repeat of Moisture

[1] GWL – groundwater level
[2] TOC – top of casing

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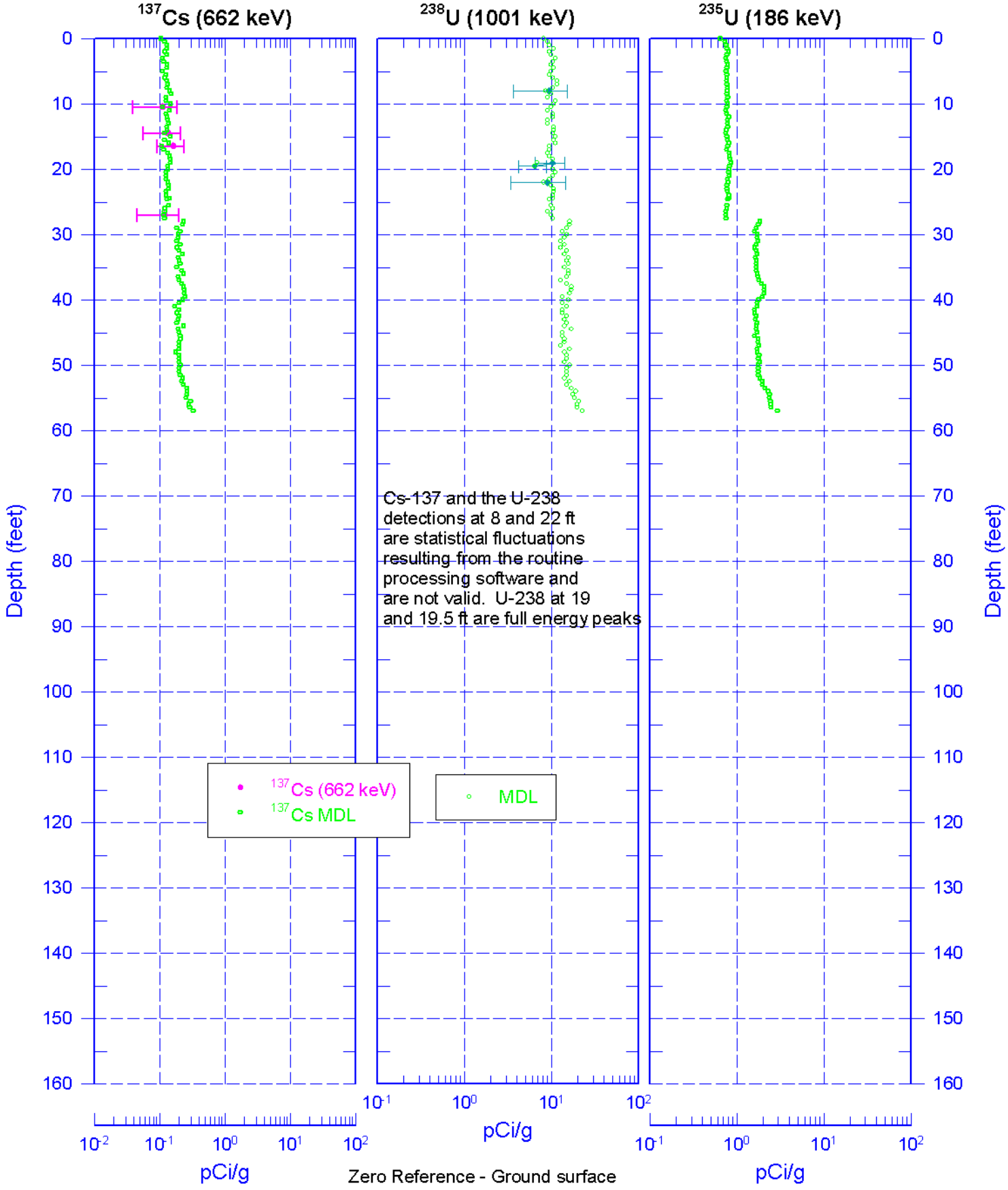
399-2-8 (C6185)
Man-Made Radionuclides



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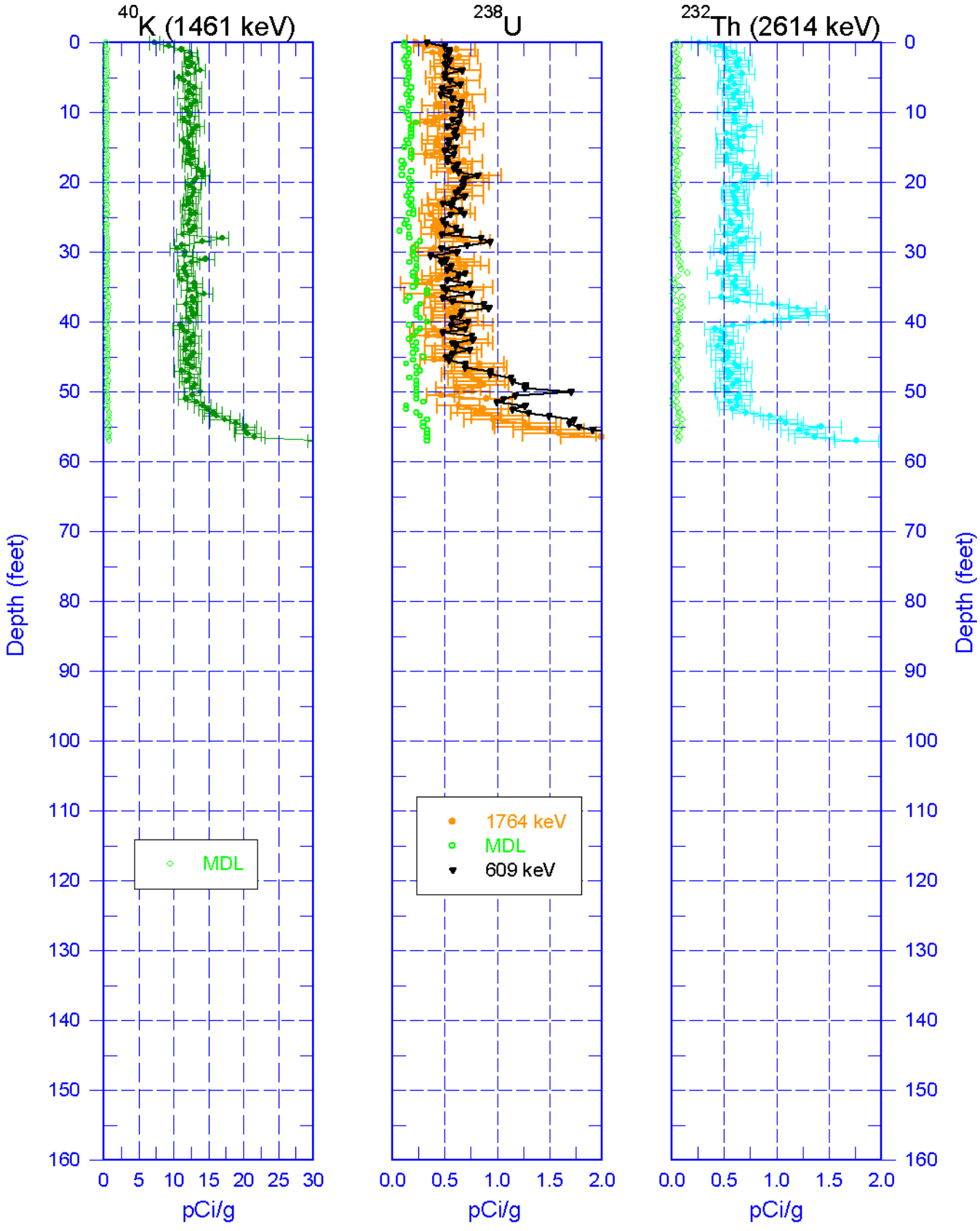
399-2-8 (C6185)
Natural Gamma Logs



Zero Reference - Ground surface

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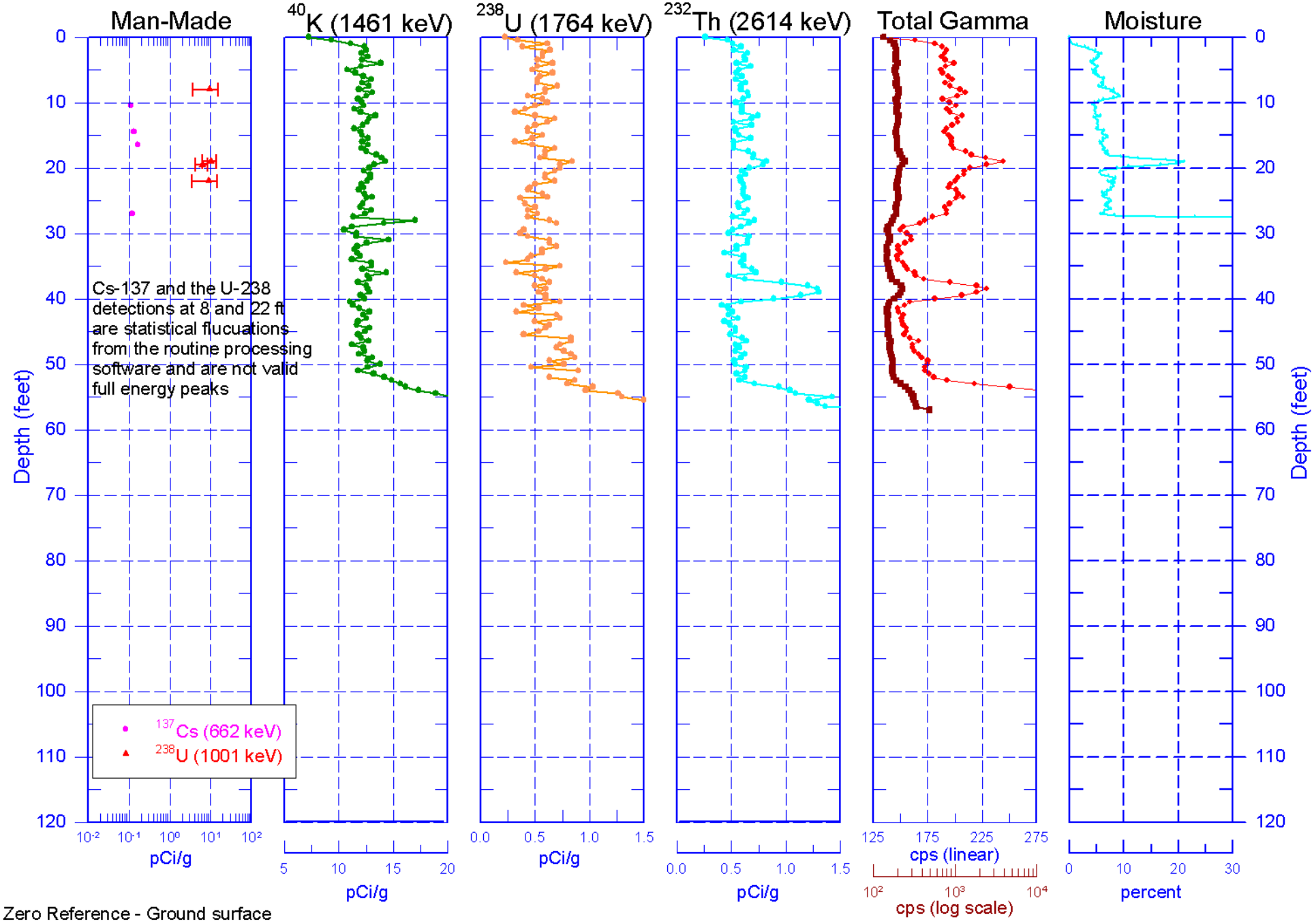
399-2-8 (C6185) Combination Plot



Zero Reference - Ground surface

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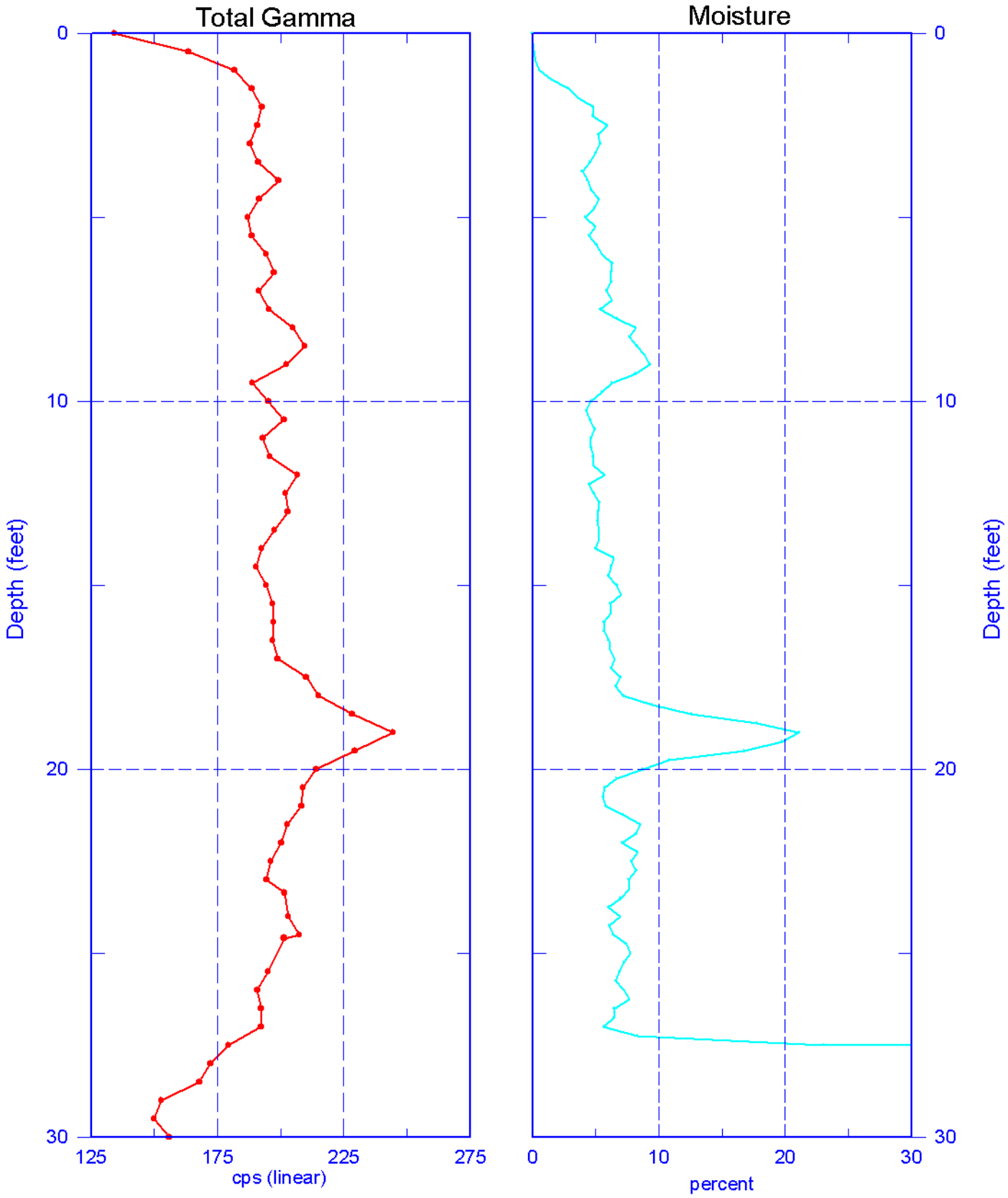
399-2-8 (C6185)
Total Gamma & Moisture



Reference - Ground Surface

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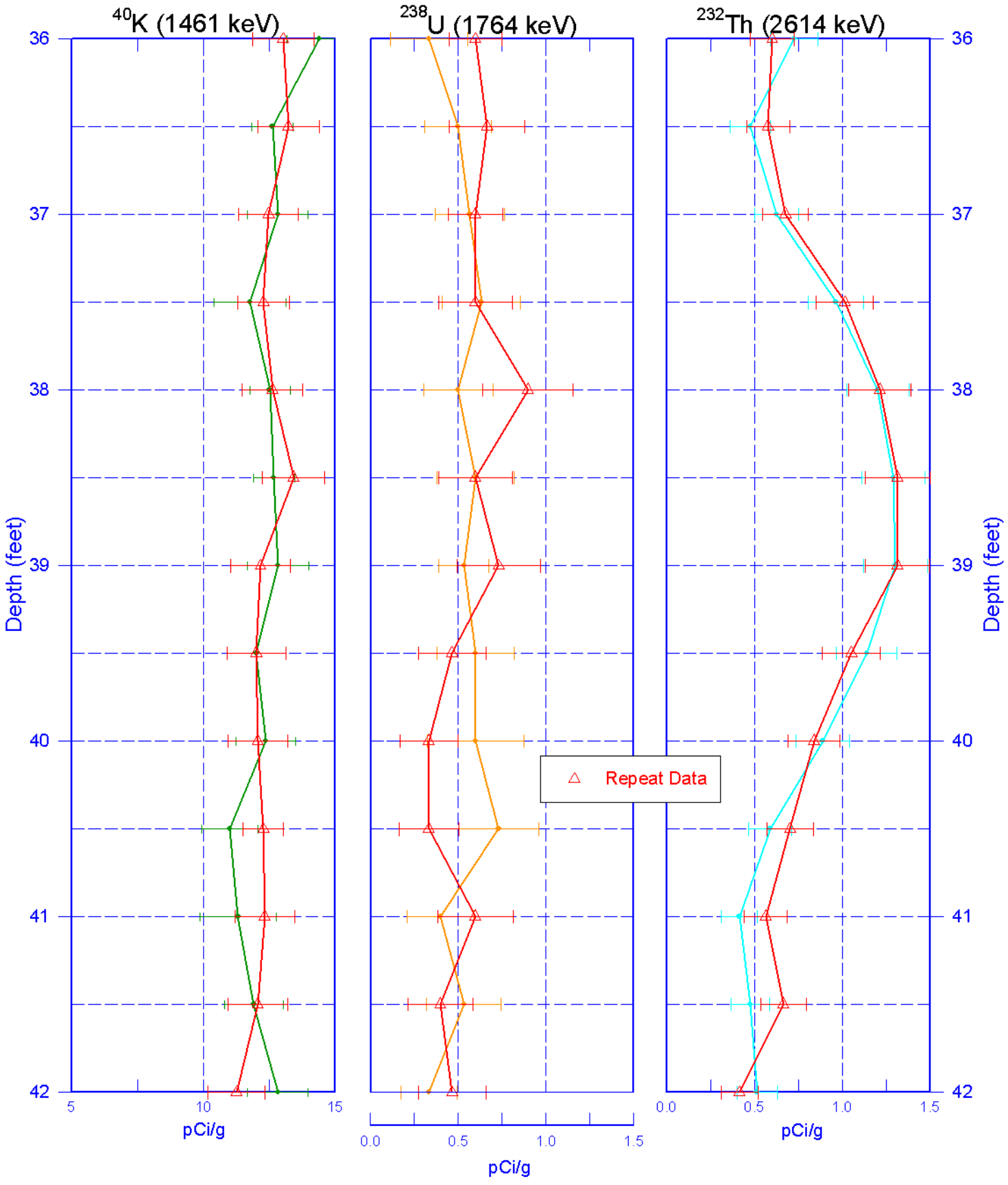
399-2-8 (C6185)

Repeat Section of Natural Gamma Logs



Zero Reference - Ground surface

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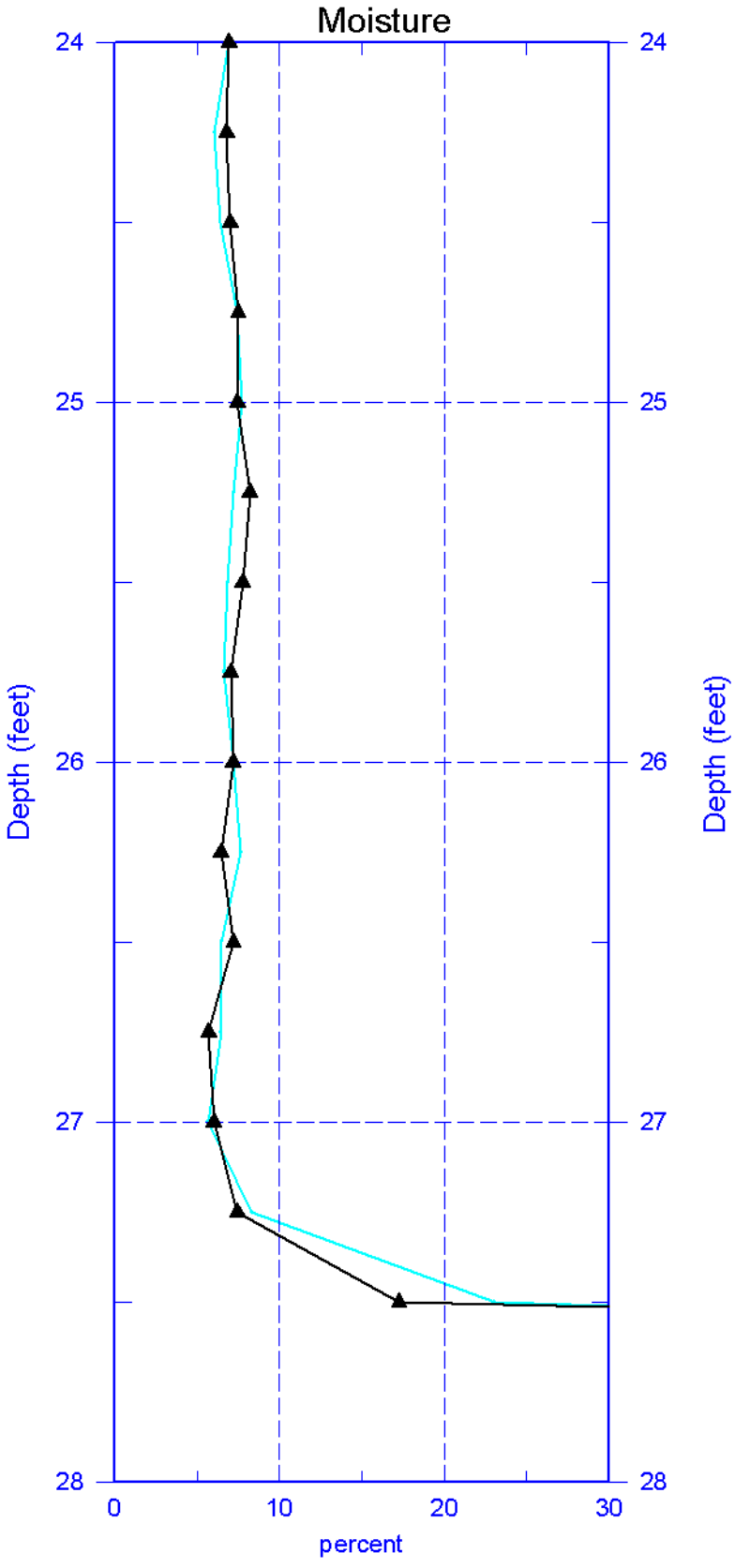
399-2-8 (C6185)
Repeat of Moisture



Reference - Ground Surface